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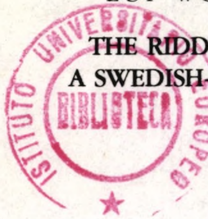

THE RIDDLE OF FOREIGN EXCHANGES: A SWEDISH-GERMAN DEBATE (1917-1919)*

by

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*I am indebted to Profs. Marcello de Cecco and Kumaraswamy Velupillai for useful comments. Remaining errors are entirely mine.

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The Riddle of foreign Exchanges: A Swedish-German debate (1917-1919).

The problem which Swedish economists faced and tried to solve at the end of World War I was clearly shown by the monetary situation in Sweden at that time.The country was experiencing internal inflation accompanied with overvaluation of the currency with respect both to the pound and to to the dollar. The brand-new tool for explaining exchange rates movements under an incorvertible paper standard regime was the purchasing power parity, which, neverthless, will fit much better the explanation of the German Inflation than the swedish one. To solve this riddle was a challenge which almost all Swedish economists accepted. Of course the main actors in the story were G.Cassel and K.Wicksell.
Although they took the gold standard regime as starting point, both Cassel and Wicksell tried explain the working of a free currency system and to look for a theory of exchange rate determination under such new conditions. While Cassel attempted to fit data from the first years of the war in a new theory which was based on the same principle as the old one , purchasing power parity (ppp) instead of gold parity, Wicksell proceeded in the opposite way: he set up two extremely simplified abstract models of exchange rate determination and stated that the reality was to

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be considered as a kind of "mixed" case. Moreover, as in his criticism of the theories of the exchange value of money in Lectures, Wicksell is continuosly engaged in a "Auseinandersetzung", that is in a comparison which tends to separate and make sharp distinctions and clear cut sections between contrasting explanations of the same phenomenon, with both Cassel's and some German theories of exchange rate determination.

Cassel and Wicksell by attempting to defend the theory developed almost by chance new pieces of analysis which look much more complicated but less far from reality.

1.0 The Cassel-Wicksell debate on the krona overvaluation.

1.1Cassel's point: the trade balance surplus.

Cassel himself, who was the discoverer of the new theoretical tool made actually use of it only to a very limited extent in giving his explanation of the Swedish situation in 1918. Instead of stressing the relationship between quantity of money, price level and exchange rate, he stressed the role of the current account in determining the krona overvaluation and linked the rise in the internal price level to the increase in the quantity of money caused by a wrong banking policy.

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He thought the origin of inflation had to be found in the excessive issue of banknotes and this in turn was to be related to the surplus of the trade balance. Swedes would have offered national currency to foreigners without any immediate compensation in terms of commodities or services. Thus it was not the surplus of the trade balance itself to cause the inflation but the transfer of Swedish purchasing power abroad, demanded by foreign countries in order to meet payments for their imports. He writes:

> .Inflation takes place first because we offer Swedish kronor to foreigners without any immediate compensation in terms of commodities or services. It is not the export surplus itself to cause inflation, but the transfer of Swedish purchasing power abroad for the payment of this export surplus.Inflation takes place also as soon as banks buy foreign currencies to a greater extent than it would be required by import financing or they make Swedish krona loans to foreign borrowers or because Sweden buys foreign securities by means of Swedish kronor. But on the other hand this transfer of Swedish purchasing power through these ways was necessary in order for exports to go on to the extent they actually did[1] .

According to Cassel the overvaluation of the Swedish currency was due to the same reason: the trade balance surplus.

As a consequence of the Swedish trade surplus "foreign countries found it difficult to cover their need for Swedish crowns and we had difficulties in employing all the foreign assets which our

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1. G.Cassel, "Dyrtid och sedelöverflöd", Stockholm, 1917, p.73-74.

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export brought us. This is the reason why the Swedish crown went over the level corresponding to its internal value i.e.its purchasing power[2]."

The theory of purchasing power parity had been "discovered" by Cassel himself in order to explain the behaviour of exchange rates during the war.From the analysis of the data concerning the monetary variables during the first years of the war Cassel had achieved the result that those data could only be explained by assuming a rigid proportionality between quantity of money and price level.He writes:

> When, after the outbreak of the war, a sudden and extraordinarily strong revolution took place in the world's supply of means of payment, an occasion was given for an empirical research on its effects on the general price level. From this standpoint I started to collect all materials which could be obtained to solve this question without any preconceived opinion or result. At the earliest I had a tendency to think that the quantity theory would not be useful for such short periods as the one in question. However it turned out that a unique explanation, fitting all the data available, would be obtained only by assuming a quite strong proportionality between price level and quantity of circulating money and a certain theory of exchange rates. To this theory the most important factor for exchange rate determination was the ratio between the internal values of the currencies as these are expressed in the general price level[3] .

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2. G. Cassel, "Våra exportindustrier utsikter", Svensk Export, 1918,n.615.
3. G.Cassel, "Penningväsendet under kriget och därefter",Ekonomisk Tidsskrift, 1917, p.291 f.

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In order to justify the divergence between theory and reality Cassel blamed the war which,by creating difficulties in the international trade,had made ineffective the classical adjustment mechanism which worked through changes in the trade balance.
This means that,if no war had started, to the flow of goods from Sweden abroad would have corresponded a flow of money to Sweden. But this would have been immediately followed by a flow of goods from foreign countries to Sweden, due to the increase in Swedish demand for imports.
The increase in gold would have increased first the monetary circulation inside Sweden, successively the price level, and therefore it would have been more convenient to buy foreign goods the price of which was lower with respect to the domestic ones. Thus the trade balance surplus would have disappeared and the balance of payments would have been brought to equilibrium again. This is the working of the classical adjustment on the automatic character of which based the prewar system . According to Cassel's analysis, it seems that just the war and the difficulties in importing goods from the countries participating in made this adjustment impossible.
It has to be pointed out that in the background of the empirically proved parallellism between price levels and exchange rates there was a precise theory which implied a preestablished causal sequence.

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Wicksell's point:the capital account.

Wicksell was also convinced that the discrepancies between price-levels and exchange rates, which had been observed during the war period, had to be explained with the exceptional circumstances which the war gave rise to. In the case of Sweden the strange combination of inflation and overvaluation was to be seen as the result of the difficulty to import from the countries participating to the war.

In contrast with Cassel, he denies that both inflation and overvaluation can be explained by the same causal scheme. He declares almost literally that the changes in the relation between different countries' price levels have nothing to do with the relation between the respective currencies, that is the exchange rate.He takes as example the England-United States relationship during the war.

> " See for instance the mentioned relationship between England and America. Here no legal difficulties in the communications took place, with the exception perhaps of the important commodity coal, the export of which from England to South America during the war period was totally interrupted. But in a way the same effect has been brought about by the enormous demand for import which came from England and the other Entente countries under its economic guidance. This circumstance and the scarsity of bulky goods (coal) to be transported brought about that the American exports goods to England -- and generally to Europe -- were charged with a proportionally much higher amount of transport costs than the English or European goods to America. Under such conditions the

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average price level in England during the war had to stay at an higher level than the average price level in America, and this was indeed what happened. This price divergence has in itself nothing to do with the currencies' level. It would have occurred in any case, even if the gold movements between England and America had been totally free and the exchange rate consequently had stayed at or around par. In this case the English bank should immediately raise its discount rate up to such a level that the American owners of claims could find profitable to leave their claims in England. An equivalent solution from the standpoint of the theory would have been to induce them to accept the payment in form of securities, since the latter, because of the high interest rate ruling in England, had such a low course that became attractive for the American buyers .As is known it was preferred a state control of the exchange rate between England and America, the main feature of which was that England, with the help of some fiscal measures, forced itself to buy some American bonds held by English people and later sold them in America at an acceptable price. In fact the result reached by doing so was not so different from the one which would have been reached if the discount rate had been raised.The main point was that England offered to his American debtors a higher rate of return than the one which people thought could be obtained in the English market. Whether this was really an advantage is not a question I wish to deal with; if the same procedure had been used with us, our exchange rate could have stayed around par during the whole war.
If these measures had not be taken, but England had simply protected its gold reserve through an export prohibition (and we can think it existed de facto during the war) then the exchange rate woud have fluctuated to a greater or minor extent , i.e. the English currency would have been undervalued. This had nothing to do with the divergence in the average price levels, which already existed, but instead to some extent it sharpened it. Neither it had something to do with the American trade balance surplus; this had exclusively the character of a currency speculation, i.e. the fluctuation in the exchange rate depended on the American opinion concerning the date of the return to gold payments in England. American securities in England would have had an higher value in English currency but the same in American currency; English securities would have retained their value in English currency but a lower

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> value in American currency .Both kind of securities could be imported to America with profit but only as a currency speculation in the first case made by the English sellers, which planned to buy them again at a lower price, in the last case by the American buyers, which hoped to sell them in the future at an higher price.In any case the american buyer didn't get any relevant higher rate of return,since the yield on english bonds should in the meantime be paid in the undervalued English currency.
> Mutatis mutandis this is what happened in the relation between England and the Scandinavian countries[4].

As we have seen above,Wicksell didn't consider the events occurred during the war as a failure of the prewar adjustment system such as Cassel meant. He just pointed out that this automatic adjustment had never existed. This is Wicksell's conclusion, as far as I can see.

Neverthless Wicksell denied any link between exchange rates and trade balance.Strangely enough he directed his criticism of the exchange rate determination theory both against Cassel and against some German economists, who instead represented an anti-quantity theory approach to monetary theory.

Wicksell's point against Cassel on one side and the German economists on the other side is that exchange rate fluctuations

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4. K.Wicksell, "Växelkursernas gåta", Ekonomisk Tidskrift, 1919, p. 97-99. The translation is mine. An english translation of this article can be found in the book Selected Papers on Economic Theory, Harvard University Press 1958.

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cannot be caused by changes in the trade balance only.He stated clearly this opinion in an article appeared in a Swedish newspaper dated 17 December 1918.

His argument was that what ultimately matters in order to explain the exchange rates behavior is not the trade balance but the balance of all payments arising both from the current account and from the capital account. This would have been confirmed by the exchange relation between pound and dollar during the war.He writes:

> If England during the war had succeeded in maintaining at par its exchange with the dollar even if it had a big deficit in the trade balance, why did England and the other Entente countries plus the neutral countries not succeed in doing it with respect to Sweden? The question doesn't concern the trade balance ,but the balance of payments; a trade balance deficit doesn't imply anything for exchange rates so far a country which has an import surplus offers such a high interest rate on its current credits or tries to sell domestic bonds at so low a price that the balance of payments in this way is brought to equilibrium.Only if this doesn't happen the exchange rate will be disturbed and this could explain in my mind the level of our exchange rate during the war; this doesn't mean to deny the existence of several complicated points which have been only partially explained. But as long as Swedish banks have lending conditions more severe than foreign banks have and our Riksbank goes on with its restrictive gold purchase policy -- which neverthless in the last time unfortunately seems to be seriously weakened -- I don't see any reason why the Swedish krona should not substantially maintain its actual value, even if our actual export surplus should

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convert itself in an import surplus..[5]."

First of all it can be noticed that exchange rates in Wicksell are determined on the capital account and depend not only on the demand for currency but on the demand for and supply of assets.
As it is stated above not only the interest rate level but the price of assets affects the exchange rate level.
A budget deficit can be financed through foreign funds or capital movements without this affecting the exchange rate. This situation can last for a long period of time. There is no established sequence from the capital account to the current account, the internal price level, and income.
The exchange rate position has no relation with the price level increase.The price level in this case has moved independently from the exchange rate and this seems quite obvious since the exchange rate is not determined on the goods' market.
Changes in the capital account which are determinant for the exchange rate movements have instead nothing to do with the purchasing power parity and similia.
There is no link between surplus in the trade balance, credits to foreign countries and increase in the internal stock of money and internal price level, in contrast to Cassel's view.

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5. See Svensk Handelstidning, 17 december 1918. This passage is quoted by Anders Östlind, Svensk Samhällsekonomi 1914-1922, Stockholm 1945.

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The stock of money in Wicksell's :ind doesn't matter at all in the explanation neither of price level movements nor of exchange rates movements. The relation which is supposed to matter is the one from interest rate level and price level in a closed economy and from interest rate or more generally rate of return on assets and exchange rate in an open economy. This is what makes Wicksell different from Cassel, Brisman and other Swedish economists and what distinguishes the Swedish theory of exchange rate determination from the 'keynesian' one, where by Keynesian is meant the theory entailed in the "Tract on Monetary Reform" which was predominant in the economic world of the twenties.

This could also be the point which distinguishes the theory of the Swedish School from current models of exchange rates determination like, for instance, the most recent ones of Kouri and Branson[6].

In the above mentioned models the exchange rate and the interest rate are jointly determined in the assets' market and the stock of money is always supposed to be fixed.

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6. See Kouri, "The Exchange Rtae and the Balance of payments in the Short Run and in the Long Run, Scandinavian Journal of Economics, vol LXXXVIII, n.2 (1976); Kouri, " The Balance of Payments and the Foreign Exchange Market: A Dynamic Partial Equilibrium Model" in Bandhari J.S. Putnam B.H. (eds.), Economic Interdependence and Flexible Exchange Rates, Cambridge Mass., 1983; Branson W. BuiterH.: "Monetary and Fiscal Policy with Flexible Exchange Rates" in Bandhari and Putnam quoted above.

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In the classical adjustment theory a change in interest rate could affect the balance of payments and the exchange rate only through its effect on the stock of money or in the neoquantitative version on the nominal income, e.g. a rise in interest rates could improve the exchange rate by depressing nominal income and the demand for imports.

What instead Wicksell meant was that a monetary policy or a fiscal policy which through high rates of return could attract financial resources from abroad in order to finance deficits (budget deficit or trade balance deficit) was able to avoid in this way a worsening in the exchange rate or, as in the case of the overvaluation of the krona, even to get an appreciation .

This is entirely consistent with his preceding theory of the relationship between rate of interest and price level, where the moving force was not considered the rate of interest in itself but the relationship between the rate of return on money ("utlåningsränta") and the rate of return on real capital (affärsvinsterna ").

In this way the problem of macroeconomic equilibrium which had troubled for so many years Wicksell and his readers, namely the contemporary fulfilling of the three famous conditions, could be simplified to a great extent in so far as only the international market for monetary assets is here concerned.

From this point of view there is no problem to reconcile equilibrium conditions for the goods' market and the money market

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into a unique system of equations,a procedure which would be open to a lot of objections. In an open economy the transmission mechanism of monetary impulses would pass through the capital account and the exchange rate.

The point to stress here is that this conclusion on the determinants of the exchange rate has been reached without taking into account the speculation factor,which, as Wicksell in other places recognizes plays an important role but it is not the unique factor which explains exchange rates positions.
The level of the exchange rate would be the result of conscious decisions from the part of economic agents on how to distribute their financial wealth.
Moreover the economic policy of the Central Bank and of the government in a country is supposed to interact with the international capital market and this interaction is supposed to occur on the assumption that the target is fixed in terms of rates of return on assets and not in terms of nominal stock of money or income.

2.0 Wicksell and the "German" theory of exchange rate determination.

In his analysis of the prewar adjustment system and of the working of the Gold Standard Wicksell seems to be inspired by some german

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economists like K.Helfferich and F.Schmidt. In "Vaxelkursernas gata" he mentioned Helfferich for having shown how the gold movements didn't really play the role of equilibrating the balance of payments and of stabilizing the exchange rate and F.Schmidt for having provided data to demonstrate this.[7]

From the point of view of the theory of money the German economists Wicksell was referring to were linked in some way to the State Theory of Money of F.G.Knapp, although some controversies among them were present as to the role of current versus capital account in the theory of exchange rate determination and on the short run versus long-run character of such a theory.I am going to insert Wicksell's contribution to this topic in this

"German" connection.

2.1 The exchange rate as a market phenomenon: Knapp's theory.

The idea of the exchange rate being determined in the market and the refusal of whatsoever value of it to be considered as the par either in terms of the gold parity or of the purchasing power parity stems from Knapp's state theory of money. As he himself

7. See K.Wicksell, "Växelkursernas gåta", Ekonomisk Tidskrift 1919, p.87-88.

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wrote, the origin of the exchange rate is <u>mercantile and psychological.</u>

Knapp writes:

> "The intervalutary exchange in all case depends on the sum total of the transactions between two countries which entail payment in either direction. It is the expression of the momentary gap between supply and demand in respect of the foreign currency on the Bourse.
> The question how many marks the pound sterling is worth in Berlin depends on the balancing of supply and demand. Supply and demand arise from unsettled business obligations and speculation.The intervalutary exchange is determined by business settlements, which give rise to payments on one side or the other, and also by forecasts as to future business transactions. It cannot be ascertained by any technical consideration of the materia of the valuta pieces, because its origin is not Chartal and technical, but mercantile and psychological."[8]

According to Knapp the most natural state of things is characterized by a fluctuating exchange. The theory doesn't need to explain why it fluctuates but on the contrary why it is ever fixed.The fact that the exchange maintains a certain fixed value may be only the result of a conscious monetary policy aiming at this. There is nothing in the value of the currency which warrants for its being in a certain fixed relation to another currency.Knapp writes:

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8. See G.F.Knapp, The State Theory of Money, english translation from the 1924 german edition, p. 221.

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> "This view, to which we are absolutely driven in order to explain the facts, has a remarkable consequence. The value of a foreign money -- the english, for example -- expressed in German money is a result of general trade relations.There is no previous existing a priori relation of the pound sterling to the mark.The exchange value of the pound sterling at a given moment,expressed in our lytric unit,the mark, is always created by trade,more accurately by business relations. There is no course of exchange which precedes trading; the exchange arises as the result of trading. This is the meaning of the pantopolic point of view. The correctness of the theory is proved by the fact that it explains everything. The contrary view of the metallists -- that there is an exchange par on which trade is based as an antecedent is quite wrong. Trade only presupposes that there is a course of exchange, not that there is a fixed one, and traders use the exchange, whatever it may be, as the starting point of their calculations. They start from today's exchange and help to make tomorrow's."[9]

The German monetary theory which was inspired by Knapp's theory of money was directed against the purchasing power parity doctrine in so far as the latter postulated a relationship between changes in price level and changes in the external value of the currency. Bendixen wrote that the course of the exchange was a result of the balance of payments only and of the speculation based on the expected development of the balance of payments[10] and, following Knapp's theory, Elster stated that no natural level of the exchange rate existed and that this wrong belief is to be connected with the idea that the internal price level and the exchange rate are bound by some mathematically expressed

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9. See G.F.Knapp, "The State Theory of Money", p. 229-230.
10. See Friederich Bendixen, "Die Bestimmungsgründe der intervalutarischen Kurse", Weltwirtschaftliches Archiv 1918, Band XIII, p.65-74.

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relationship.[11]

2.2 Wicksell and the German trade balance theory of exchange rate determination.

As we have seen Wicksell was both against Cassel's theory and against the German trade balance theory we have just exposed, although the two explanations came from very different views on the theory of money.
Cassel, on the other hand, was just refining the quantity theory with respect to the exchange rate determination theory and trying to make it a suitable tool under changed conditions.
The Germans economists, as to the internal value of money followed a nominalistic theory based mainly on the function which money performed as legal tender, as to the external value of it had a market theory or better said a mercantile one in so far as they applied to explain the external value of money a theory of the value of commodities. The extreme expression of this was that an exchange rate could exist only to the extent that commodities were previously exchanged.
In his "Lectures" Wicksell was just fighting these two visions of the problem in their applications to the problem of the internal value of money. It seems that also in the exchange rate determination theory the same problem is faced, where the two possibilities are both criticized from different standpoints.The

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11. See on this: K.Elster, "Münzparität und intervalutarisches Pari", Weltwirtschaftliches Archiv 1918, p.605 f. and K.Elster, "Die deutsche Valutapolitik nach dem Kriege", Stuttgart 1919.

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quantity theory once again, although being the only <u>specific</u> theory, is internally inconsistent since under current conditions the concept "quantity of money" cannot be clearly defined. Consequently also a theory which links the exchange rate position to the internal value of the currency determined by its quantity fails in the same way.

The other theory which attempts to use the laws valid for the value of commodities to the value of money is fallacious in so far as it doesn't recognize the proper nature of money and its basic difference from goods.

Once again even in this place Wicksell thinks of a "positive solution" which is entailed in two abstract cases -- the one with free trade and the other one of an isolated country which has no trade relations with the rest of the world. He writes:

> In the revolution of all exchanges rates which has taken place during the war it would have been useful to have an exchange rate theory developed in all details; as it is the situation nowadays, it can hardly be said that this theory made any relevant progress, since Goschen wrote his interesting and learned, but too aphoristic little work.To a certain extent, it can even be said it has gone back, since the main interesting point has become the exchanges gravitation around gold points.This would depend on changes in the trade balance or in the balance of payments. Thus people are driven to ascribe even the enormous divergences in the exchanges over or under par,which the war has shown, almost exclusively to trade or credit factors. They pay no attention to the fact, already observed by Goschen, that the real important fluctuations of the exchange rates can never depend on such causes, but always imply a real worsening -- either real or only expected -- of the value of the currency of the country concerned. As is known in Germany not only bank leaders -- f.i. the Reichsbanks director -- but also famous economists recently supported the statement that the enormous rise in German exchange rate with neutral countries wasn't caused by any worsening of the value of the currency but depended exclusively on the German trade

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> balance deficit during the war......................
> On the other hand it is not very easy to decide what has to be considered as a worsened value of the currency, an inflationed currency. To Goschen this concept was sinonym for a gold agio, but nowadays, when all countries more or less have locked up their gold, and free gold movements do not exist in any place, the relation of the banknotes to the gold metal becomes a field rather obscure to think about.I would like to give a great contribution to the elucidation of the complicated events within the monetary system (penningvasendet) which the war created.But, perhaps, this will be granted only to the next generation of economists. From my part I have to be satisfied with the discussion of some typical, more or less invented cases, where the assumptions are so simple, that no doubt on the correctness of the conclusions seems justifyed to me.To what extent such a discussion can be useful to clarify the connection of events which really occurred is a different question[12].

In the first case the relation between price levels and exchange rates under normal conditions holds but is not to be seen as implying any causal relationship. The causal link may work in the two directions according to the circumstances.He wrote:

> Assume that the price level in a country goes up as a consequence of a supply shortage or of a monetary inflation: imports increase and exports are made more difficult, there is a trade balance deficit and the exchange rate raises over pari, while the excess of imports tends to lower to some extent the price level.
> Assume that the exchange rate has risen spontaneously because of a lack of confidence in the concerned country, which induces the foreign

12. K.Wicksell, "Växelkursernas gåta", Ekonomisk Tidskrift, p.88-89.

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> claims owners to withdraw their assets or to get rid of their securities. In this case the rise in exchange rate works as a premium for exports and an obstacle for imports, and consequently the price level in the country tends to rise while at the same time the exchange rate has a better position.[13]

Moreover the adjustment is not automatic but it results from a conscious monetary policy. The ultimate solution is then that both price level and exchange rate are determined by means of monetary policy, the tool of which is the discount rate.This is what can be inferred from the following statement:

> The ultimate cause should in both cases lie in a wrong currency management in the country which has a worsened currency. If the central Bank had reacted in time and to a sufficient extent through a tightening of its credit conditions against the starting increase in the price level or the starting worsening in the value of the currency, none of these events would have lasted and everything would have returned to normal conditions. In the case of an isolated country the only factor which matters for the exchange rate level are expectations concerning the future level of the exchange rate itself and then speculation[14].

Reality may be a combination of both cases where consequently the discount rate and the expectations (speculation) are important to

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13. See K.Wicksell, "Växelkursernas gåta", Ekonomisk Tidskrift, 1919, p.90.
14. See K.Wicksell, "Växelkursernas gåta, Ekonomisk Tidskrift, 1919, p.91.

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a greater or minor extent.The exchange rate behaviour during the war in Sweden would have reflected these two fundamental types. During the first part of the war, when the limits and difficulties to the internationl trade were moderate, the first type would suit better the events . On the contrary during the last part of the war the second type would be more useful.

2.3 Wicksell and the balance of payments theory of exchange rate determination.

Among the German economists who supported the state theory of money there was a debate on the meaning of the term balance of payments when referred to in exchange rate determination theory. Some of them stressed the fact that within the balance of payments the most important item for exchange rate determination was the capital account, that is the financial transactions from and to the country.I give some examples through ad hoc quotations:

> "I show that ,even if no imports and exports had taken place at all, only foreigners had credits with respect to Germany since they held some German securities, only for this reason the value of the currency would fall, because of the rise in internal price

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level."[15]

To this passage Wicksell objects that if there were no imports and exports at all the only factor in exchange rate determination would be expectations. More similar to Wicksell's ideas appear Schmidt's proposal of exchange rate control and its underlying theory.

This was actually inspired by the functioning of the Gold Standard in the period 1909-1913. He shows, with the help of data, that gold movements were not really important in order to carry out international payments. Since the Gold Standard has in fact been a managed standard system without any automatic adjustment, Schmidt thought that the same type of management used hitherto could be used, without making use of gold.This type of management should neverthless be extended in order to face not only short-term seasonal changes but long-term, structural, ones. This monetary policy would work as follows:

> Long-run movements in exchange rates depend on the lack of equilibrium in the balance of payments (Forderungsbilanz) and can be counteracted through intervention on the fundamental items of the B.of P. or through creation of corresponding long-run equilibrating items. Intervention must be very profound in order to get some effects. Even if the B.

15. See R.Liefmann, " Die Bestimmungsgründe der intervalutarischen Kurse", Weltwirtschaftliches Archiv, 1918, p.431.

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> of P. is in equilibrium, short-run fluctuations in the exchange rates may occur because usually debts and credits don't fall due at the same precise moment. If one wishes to control these temporary movements it is not necessary to intervene on the fundamental items of the balance of payments (Forderungsbilanz); it is indeed sufficient to provide some compensating items to a suitable extent. Temporary disequilibria of the exchange rates are easier to offset than permanent ones. Usually it is sufficient to shift the date at which debts and credits fall due. The permanent imbalances depend on much greater disturbances and it is often necessary to intervene on the fundamental items in order to bring equilibrium."[16]

This type of exchange rate control through equilibrium in the balance of payments would not be in contradiction with the laws of price formation, but it would only imply to bring back supply and demand to their fundamentals, namely the debts and credits of one country with respect to the rest of the world.

Intervention of the type here described would also be useful in controlling the negative effects of the speculation on currencies. The author thinks that intervention on the foreign exchange market from a government or Central bank should induce speculators to be more moderate.

The point to stress in this proposal is that this type of policy, which was also pursued by bankers in order to clear the

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16. See F.Schmidt, "Die Beherrschung der Wechselkurse", Weltwirtschaftliches Archiv, 1918, Band XIII, p.531-579; passage quoted p.531.

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balance of payments day by day and to counteract seasonal fluctuations in the exchange rates is instead proposed as a conscious and deliberate policy to be practised by goverments and central banks in order, not to avoid smooth fluctuations from ppp, but to hinder necessary adjustments for the gold standard or the purchasing power parity to be effective. Then the ultimate aim of such a policy is to control the long-run behaviour of exchange rates. In this way it is implicitily denied that exchange rates are automatically stabilized by stabilization of the internal price level through interest rate policy or directly by controlling the money supply. A much more massive intervention in the foreign exchange market would in this case be required.

If we try to compare Wicksell's with Schmidt's analysis we get the following results.

Wicksell, although stressing the role of the capital account in the theory of exchange rate determination, doesn't seem aware of the difficulties of a policy aimimg at stabilizing both the price level and the exchange rate. The amount of intervention which Schmidt has in mind is much more than just setting the discount rate.

On the other hand Schmidt, who is pleading for this type of intervention, considers only the ex post aspect of the problem and neglects completely the ex-ante one which had been highlighted by Wicksell while dealing with British exchange policy during the war.

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If such compensating items (Ausgleichsposten) must be created, it has to be supposed that someone is willing to buy or to sell assets from one country to the other. This means that the rates of return on these assets must be sufficiently high to induce people to hold them. But this would mean to have a portfolio balance theory of exchange rate determination and this is perhaps too much to expect as early as 1918.

Neither Wicksell nor Schmidt takes into consideration the effects of such intervention policy on internal prices and income.Thus it is possible to avoid the problem of vicious and virtuous circles and the possibility of cumulative increases in prices and exchange rates.

Both these problems, the ex-ante aspect of the demand for monetary assets with respect to the exchange rate determination and the adjustment process which follows a change in exchange rates will be objects of attention for the economists forming the Swedish School, especially in the reports written in the early thirties.

What is still present of this debate in the Swedish School open economy macroeconomics is the refusal of the purchasing power parity theory and the attention devoted to financial flows and international capital movements in order to explain not only exchange rate levels but also income and output fluctuations.

The main difference with respect to Wicksell was that he was dealing with a world which was more or less linked to gold and where consequently thanks to some automatic adjustment system or

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to a conscious intervention exchange rates are considered as fixed.

His followers on the contrary wrote in the early thirties where flexible exchange rate were a reality after the failure of the return to the gold standard.
Consequently they tried to evaluate monetary and fiscal policy effectiveness in a flexible exchange rate regime.
Among them there are two main positions on intervention in the foreign exchange market. A line must be drawn between Lindahl who believes that the authorities may be able to attain their goals either an price level or an exchange rate even if speculation and international financial markets may temporarly interfere with their aims and those like Ohlin who stressed the difficulty of carrying out an autonomous monetary polcy and the danger constituted by cumulative processes concerning both prices and exchange rates.

Conclusions.

The different positions of Cassel and Wicksell on the strange exchange rate behaviour during the war can be explained with the different attitudes they had towards the working of the Gold Standard system in the period before the war. To Cassel the war was responsible for the difficulties it created for the classical

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adjustment mechanism to work, in Wicksell's opinion this mechanism in its pure form has never worked, not even before the war.
This idea was perhaps inspired to Wicksell by some German views of economists supporting the state theory of money of Knapp. What makes Wicksell different from them is that he refuses a trade balance theory of exchange rate determination because too mercantile and no sufficiently specific.
As to those German economists who were the representatives of a balance of payments theory, Wicksell differs from them because he stresses the ex-ante aspect of the demand for foreign currencies and bonds denominated in them and because probably he was not aware of the extent of intervention which would have been required to control exchange rates through monetary policy.
This last problem was the main theme of Swedish school conomists in the thirties, in a period where exchange rates were free to fluctuate.

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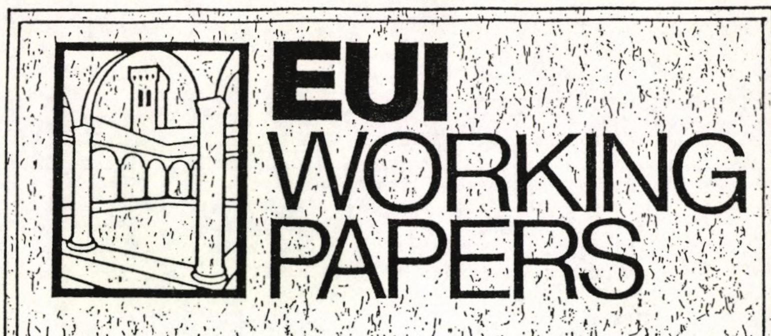

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